## CLAIMS

1. A continuous process for the manufacture of a ring-dyed filament, said process comprising the steps of:

a. continuously extruding a polymer melt from an extruder to form the filament; and,

b. continuously feeding the extruded filament into a tank containing a dye solution and maintaining the filament in the tank for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored with said dye and an inner cross-sectional region not colored with said dye.

2. A process as in Claim 1, wherein the outer cross-sectional region of the filament is of a substantially uniform thickness over the length of the filament.

3. A process as in Claim 1, wherein during said ring-dyeing step (b), said process comprises the further step of quenching the filament downstream of said extrusion step (a).

4. A process as in Claim 1, wherein immediately following said extruding step (a) and prior to said ring-dyeing step (b), said process comprises the step of quenching the filament.

5. A process as in Claim 4, wherein said step of quenching is carried out by utilizing positively driven feed rollers for directing the filament through a water bath.

6. A process as in Claim 1, wherein said ring-dyeing step (b) has a duration of between less than 1 and 30 seconds.

7. A process as in Claim 1, wherein the filament is formed of a polyamide.

8. A process as in Claim 1, wherein following said ring-dyeing step (b), said process comprises the further step of directing the filament into a first heated zone under a predetermined tension and stretching the filament to a predetermined cross-sectional dimension.

9. A process as in Claim 8, wherein said stretching step only occurs following said ring-dying step (b).

10. A process as in Claim 8, wherein said stretching step comprises multiple stretching steps.

11. A process as in Claim 8, wherein following said stretching step, said process comprises the further step of passing the filament through a second heated zone under a controlled degree of relaxation and annealing the filament.

12 A process as in Claim 11 wherein immediately following said annealing step, said process comprises the further step of coating the filament with a lubricant.

13. A process as in Claim 12, wherein said coating step includes the step of contacting the filament with a lubricant applicator roll.

14. A process as in Claim 1, wherein said filament is formed of a polymeric composition.

15. A process as in Claim 8, wherein said step of stretching is imposed upon the filament by positively driving feed rollers of a second roll stand and positively driven rollers of a first roll stand, the feed rollers of the second roll stand being driven at the same speed but faster than the rolls of the first roll stand, the filament being conveyed from said first roll stand to said second roll stand.

16. A process as in Claim 1, wherein the outer cross-sectional region of the filament tapers over the length of the filament.

17. A process as in Claim 11, wherein said annealing step includes the step of directing the filament through and out of an annealing oven by positively driven feed rolls.

18. A process as in Claim 1, wherein said dye solution comprises between 0.01% and 0.5% weight to volume of a suitable dye, said solution having a pH between 0 and 7, said solution

being maintained at a temperature between 20 and 100 degrees C.

19. A process as in Claim 3, wherein immediately following said ring-dyeing step (b), said process comprises the further step of rinsing said ring-dyed filament.

20. A process as in Claim 4, wherein immediately following said ring-dyeing step (b), said process comprises the further step of rinsing said ring-dyed filament.

21. A process as in Claim 19, wherein said step of rinsing includes the step of utilizing positively driven feed rollers to direct the filament through a water bath to remove excess dye.

22. A process as in Claim 20, wherein said step of rinsing includes the step of utilizing positively driven feed rollers to direct the filament through a water bath to remove excess dye.

23. A process as in Claim 1, wherein following said ring-dyeing step (b), said process comprises the further step of collecting the filament on a reel.

24. A process as in Claim 1, wherein following said ring-dyeing step (b), said process comprises the further step of cutting the filament to predetermined lengths.

25. A process as in Claim 1, wherein the filament is formed of a polyester.

26. A process as in Claim 1, wherein the filament includes a hollow central axis.

27. A process as in Claim 7, wherein said polyamide is selected from the group consisting of polyamide 6-12, polyamide 10-10, polyamide 6-10, polyamide 6-6 and polyamide 6.

28. A process as in Claim 25, wherein said polyamide is selected from the group consisting of polyethylene terephthalate, polybutylene terephthalate, and, polytrimethylene terephthalate (PTT).

29. A process as in Claim 1, wherein the filament is formed of a blend of a polyamide and another polymer.

30. A process as in Claim 1, wherein the filament is formed of a blend of a polyester with another polymer.

31. An apparatus for the manufacture of a ring-dyed monofilament, said apparatus comprising:

a. an extruder section for continuously extruding a polymer melt to form the filament in a downstream direction; and,

b. means for continuously feeding the extruded filament into a tank containing a dye solution and for maintaining the filament in said tank for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored with said dye and an inner cross-sectional region not colored with said dye.

32. The apparatus as in Claim 31, additionally comprising means for quenching said filament, said means being situated downstream from said extruder section.

33. The apparatus as in Claim 32, wherein said means for quenching comprises a tank containing water.

34. The apparatus as in Claim 31, additionally comprising means for heating and means for stretching said filament.

35. The apparatus as in Claim 34, wherein said means for heating said filament comprises an oven.

36. The apparatus as in Claim 31, additionally comprising a tank for rinsing residual dye remaining on said filament.

37. The apparatus as in Claim 31, additionally comprising means for lubricating the filament.

38. The apparatus as in Claim 31, additionally comprising means for stretching said filament, said means being located downstream from said means for ring-dyeing said filament.

39. The apparatus as in Claim 31, wherein said means for stretching said filament comprises positively driving feed rollers of a second roll stand and positively driven rollers of a first roll stand, the feed rollers of said second roll stand being driven at the same speed but faster than the rolls of said first roll stand, the filament being conveyed from said first roll stand to said second roll stand.

40. A continuous process for the manufacture of a ring-dyed filament having more than one ring-dyed region, said process including the steps of:

a. continuously extruding a polymer melt from an extruder to form the filament; and,

b. continuously feeding the extruded filament into one or more tanks containing at least a first dye and a second dye, said second dye being different in color and more absorbed by the filament than said first dye; and,

c. maintaining the filament in said one or more tanks for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored by said first and second dyes and an inner cross-sectional region colored by said second dye only.

41. The dying process of Claim 40 wherein said one or more tanks comprises a single tank and wherein said first and second dyes are mixed together therein.

42. The dying process of Claim 40 wherein said one or more tanks comprises a first tank containing said first dye and a second tank containing said second dye.

43. A continuous process for the manufacture of a ring-dyed filament, said process consisting essentially of the steps of:

a. continuously extruding a polymer melt from an extruder to form the filament; and,

b. continuously feeding the extruded filament into a tank containing a dye solution and maintaining the filament in the tank for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored with said dye and an inner cross-sectional region not colored with said dye.